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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/001,953 | 10/25/2001 | Toshikazu Kobayashi | 100809-00051 (SCET 19.104 | 8865 |

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| EXAMINER | |
|---|---|
| PATEL, GAUTAM | |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2655 | |

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/001,953 | KOBAYASHI, TOSHIKAZU | |
| | Examiner | Art Unit | |
| | Gautam R. Patel | 2655 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *16 September 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1,2 and 4-6* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-2 & 4-6* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

## Response to Remarks

1. This is in response to remarks filed on 9-16-04.

2. Claims 1-2 and 4-6 remain for examination.

## *Claim Rejections - 35 U.S.C. § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. □ 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless --
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 4-5 are rejected under 35 U.S.C. § 102(b) as being anticipated by Nagata et al., US. patent 5,481,526 (hereafter Nagata).

As to claim 4, Nagata discloses the invention as claimed [see Figs. 1-18, especially 13] including means for obtaining an intermediate value, and means for turning on a focus servo, comprising:

means for obtaining an intermediate value [fig. 13, unit 273] from a maximum value and a minimum value of a focus error signal which corresponds to defocusing of the objective lens, and which is generated by a certain one of the recorded layers [col. 14, lines 3-67]; and

means for turning on a focus servo [fig. 13, unit 270] which pulls in a focus of said objective lens, with a bias at which the focus error signal corresponds to the intermediate value, in case of the layer jump to the recorded layer [col. 14, lines 3-67]. NOTE: Nagata disclose that his system works with different kind of optical disks, which inherently presents different recording layers [col. 1, line 62 to col. 2, line 6 and col. 10, line 61 to col. 11, line 5].

4. As to claim 5, it is drawn to a method corresponding to the apparatus of claim 4, is rejected for similar reasons set forth in the rejection of claim 4, supra

## Claim Rejections - 35 U.S.C. § 103

5. The following is a quotation of 35 U.S.C. § 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-2, 4-6 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Ichimura et al., US. patent 6,097,688 (hereafter Ichimura) in view of Nagata et al., US. patent 5,481,526 (hereafter Nagata) as applied to claims 4 and 5 above.

As to claim 1, Ichimura discloses the invention as claimed [see Figs. 1-9, especially 1, 2 and 9], including focus drive means, photo-detection means, focus-error-signal generation means, recorded-layer movement control means, focus pull-in means and intermediate value, comprising:

focus drive means [fig. 1, unit 6 and 7] for moving the objective lens in a direction orthogonal to the recorded layers of the optical disk [col. 3, line 51 to col. 4, line 12];

photodetection means [fig. 3, unit 74 and 77] for detecting reflected light from said optical disk [col. 6, lines 9-38];

focus-error-signal generation means [fig. 2, unit 33] for generating a focus error signal which corresponds to defocusing of said objective lens relative to any of said recorded layers of said optical disk, on the basis of a detection signal of said photodetection means [col. 5, line 37 to col. 6, line 8];

recorded-layer movement control means [fig. 2, unit 40] for generating a signal which controls said focus drive means, on the basis of the error signal, in order to move said objective lens on the recorded layer which is an objective of said objective lens [col. 5, line 37 to col. 6, line 8]; and.

focus pull-in means [fig. 1-2, units 6 & 7, part of unit 31] for pulling in the focus of said objective lens onto said recorded layer on which said objective lens is to be focused, said pull-in means being permitted to switch on and off by said recorded-layer movement control means [col. 5, line 45 to col. 6, line 8 and col. 9, lines 21-63];

Ichimura discloses all of the above elements, including recorded-layer movement control means, focus pull-in means and generating focus error signal intermediate value which is between maximum and minimum values [col. 9, lines 21-63 and col. 10, lines 20-60]. Ichimura does not specifically discloses details of intermediate value generation or that it is generated automatically from these MIN-MAX values to the extent claimed.

However, generation of intermediate values from min-max values has been well known in the art for a long time. Also Nagata clearly discloses:

calculating [col. 14, lines 63-67] an intermediate value from a maximum value and a minimum value of said focus error signal corresponding to said recorded layer [col. 14, lines 20-67 and fig. 13]; and

in case of moving the focused position of said objective lens to said recorded layer, said focus pull-in means for performing an automatic adjustment [fig. 13, unit 270] of focus bias is turned on when said focus error signal has corresponded to the intermediate value [col. 14, lines 20-67 and fig. 13].

Both Ichimura and Nagata are interested in improving the focus adjustment of the objective lens. Both Ichimura and Nagata show automatic control of various systems and also focus and servo control and max-min values of focus error.

One of ordinary skill in the art at the time of invention would have realized that the different kind of optical disks or same disk with different layers would increase focus error and/or tracking error and it would be necessary to reduce this increase in the errors. Also aging of the disk may case deviation of the focus and focus needs to be adjusted.

Therefore, it would have been obvious to have used a focus adjusting section, for calculating intermediate value, in the system of Ichimura as taught by Nagata because one would be motivated to reduce the focus deviation due to any cause and increase

S/N ration for higher reliability in the system of Ichimura and provide better signal controls and improve quality of the signal to noise ratio [col. 2, lines 45-55; Nagata]. NOTE: Ichimura discloses most of the description with respect movement of these lenses with respect to single surface. However, it is equally applicable to beam movement from layer to layer as disclosed by Ichimura [col. 10, line 61 to col. 11, line 4].

6. The aforementioned claim 2, recites the following elements, inter alia, disclosed in Ichimura.

An optical disk playback system [fig. 2] comprising the focus control apparatus [fig. 3] [col. 5, line 37 to col. 6, line 62], including:

focus drive means [fig. 1, unit 6 and 7] for moving the objective lens in a direction orthogonal to the recorded layers of the optical disk [col. 3, line 51 to col. 4, line 12];

photodetection means [fig. 3, unit 74 and 77] for detecting reflected light from said optical disk [col. 6, lines 9-38];

focus-error-signal generation means [fig. 2, unit 33] for generating a focus error signal which corresponds to defocusing of said objective lens relative to any of said recorded layers of said optical disk, on the basis of a detection signal of said photodetection means [col. 5, line 37 to col. 6, line 8];

recorded-layer movement control means [fig. 2, unit 40] for generating a signal which controls said focus drive means, on the basis of the error signal, in order to move said objective lens on the recorded layer which is an objective of said objective lens [col. 5, line 37 to col. 6, line 8]; and.

focus pull-in means [fig. 1-2, units 6 & 7, part of unit 31] for pulling in the focus of said objective lens onto said recorded layer on which said objective lens is to be focused, said pull-in means being permitted to switch on and off by said recorded-layer movement control means [col. 5, line 45 to col. 6, line 8 and col. 9, lines 21-63];

Ichimura discloses all of the above elements, including recorded-layer movement control means, focus pull-in means and generating focus error signal intermediate value which is between maximum and minimum values [col. 9, lines 21-63 and col. 10, lines

20-60]. Ichimura does not specifically discloses details of intermediate value generation or that it is generated automatically from these MIN-MAX values to the extent claimed. And Ichimura does not discloses that the focus bias when disk is reproduced this focus bias is automatically adjusted.

However, generation of intermediate values from min-max values, and adjusting parameters for different type of disks to be used in a single optical disk apparatus has been well known in the art for a long time [col. 1, lines 62 to col. 2, line 6; Nagata]. Also Nagata clearly discloses:

calculating an intermediate value from a maximum value and a minimum value of said focus error signal corresponding to said recorded layer [col. 14 ,lines 3-67]; and

in case of moving the focused position of said objective lens to said recorded layer, said focus pull-in means for performing an automatic adjustment [fig. 13, unit 270] of focus bias is turned on when said focus error signal has corresponded to the intermediate value, in advance of playback [units 273 and 274 performs this function] of optical disk [col. 14 ,lines 3-67]; and

recording layer movement control is performed by using focus bias value obtained by the automatic adjustment of focus bias when optical disk is reproduced [col. 2, lines 45-55 and col. 14 ,lines 3-67].

Both Ichimura and Nagata are interested in improving the focus adjustment of the objective lens. Both Ichimura and Nagata show automatic control of various systems and also focus and servo control and max-min values of focus error. Both disclose that their system can be used with different layers and/or different disks.

One of ordinary skill in the art at the time of invention would have realized that the different kind of optical disks or same disk with different layers would increase focus error and/or tracking error and it would be necessary to reduce this increase in the errors. Also aging of the disk may case deviation of the focus and focus needs to be adjusted.

Therefore, it would have been obvious to have used a focus adjusting section, for calculating intermediate value, in the system of Ichimura as taught by Nagata because one would be motivated to reduce the focus deviation due to any internal or external

cause and increase S/N ration for higher reliability in the system of Ichimura and provide better signal controls and improve quality of the signal to noise ratio [col. 1, line 62 to col. 2, line 6 and col. 2, lines 45-55; Nagata].
NOTE: Ichimura discloses most of the description with respect movement of these lenses with respect to single surface. However, it is equally applicable to beam movement from layer to layer as disclosed by Ichimura [col. 10, line 61 to col. 11, line 4].

7. As to claim 6, it is claim corresponding to the apparatus of claims 2 and 4, and is rejected for similar reasons set forth in the rejection of claims 2 and 4, supra. As to the added limitation of a program product:

"Official Notice" is taken that both the concept and the advantages of providing a program on a disc are well known and expected in the art. It would have been obvious to include store the program on a disc to the system of Ichimura as this stored programs on the disc are known to provide the flexibility to transport the program from one computer to another and also save the program separately so in case of computer crash program does not get destroyed and thereby saving time and money. These concepts are well known in the art and do not constitute a patentably distinct limitation, per se [M.P.E.P. 2144.03].

Ichimura and Nagata were cited as prior art references in previous.

8. Applicant's arguments filed on 9-16-04 have been fully considered but they are not deemed to be persuasive for the following reasons.

9. In the REMARKS, the Applicant argues as follows:

A) That: "Ichimura is quite different from the method disclosed by Applicant's claimed invention. In Applicant's claimed invention, an intermediate value is calculated [original emphasis] from a maximum value and a minimum value of focus error signal

..... the calculated value is then used to set a pull-in position [original emphasis] for initially pulling in the focus of the lens ... In this manner, automatic focus bias adjustment for a layer is efficiently carried out ... [page 3, para. 3; REMARKS].

FIRST: Ichimura was NOT used for calculation of intermediate values form MIN-MAX values at all. Nagata was. However it should be pointed out that Ichimura clearly shows production and saving of the "intermediate value" which is between maximum and minimum values of the "focus error signal" [col. 10, lines 20-33]. So Ichimura discloses this intermediate focus error signal value he does not discloses details of how this is being done [calculation], which of course is shown by Nagata.

SECOND: Ichimura also discloses focus drive means [fig.1, units 6 & 7], photo-detection means [fig. 3, units 74 & 77] focus error signal generation means [fig. 2, unit 33] and focus pull-in means [fig. 1-2, units 6 & 7 and part of unit 31]. The rejection of claims 1-2 was based on 103 not 102.

THIRD: As to claim 4-5 rejection was based on Nagata not Ichimura, and Nagata clearly discloses calculation of intermediate values from MIN-MAX values exactly as claimed.

B) That: "unlike Applicant's claimed invention, Ichimura does not teach or suggest calculating an intermediate value form minimum and maximum error signal values, ..." [page 3, para. 4; REMARKS].

See paragraph 9, section A) above.

C) That: "Nagata fails to teach Applicant's, the limitations of independent claims 1, 2 and 4-6 requiring means for obtaining an intermediate value [original emphasis] from a maximum value and a minimum value of a focus error signal [original emphasis] which corresponds to defocusing of the objective lens, and to turn on a focus servo which pulls in a focus of the objective lens, with a bias as which the focus error signal

corresponds to the intermediate value, when a layer jump is made to another recorded layer.

In sharp contrast to Applicant's claimed invention, according the method taught by Nagata, a focus servo offset is adjusted such that an amplitude of the tracking error signal ...reaches a maximum value (see, e.g. FIG. 17 of Nagata) [page 5, para. 1-2; REMARKS].

FIRST : close examination of fig. 13 shows that unit 270 is defined as 'focus offset adjusting section' [col. Col. 14, lines 20-25]. This shows that this particular section clearly deals with focus error adjustment and NOT tracking error signal. Unit 72 within this section calculates MAX-MIN values, than unit 273 calculates optimum or "mean" value [intermediate value] [col. 14, lines 9-11]. Now once these values are calculated they being used by the FE signal amplifier [unit 33] to eventually produce signal If.

SECOND: as to argument regarding pull in of the objective lens, the Applicants are merely describing how a focus error signal works in controlling the objective lens to produce the correct focus based on the focus error signal.

THIRD: It seems to the Examiner that calculated intermediate value is indeed being used by the FE signal to further correct the focus error signal exactly as claimed.

FOURTH: Intermediate value of focus error is clearly disclosed by Ichimura [col. 10, lines 20-33] and calculation of this value is shown by Nagata.

10. **THIS ACTION IS MADE FINAL**. See M.P.E.P. § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

**Contact information**

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gautam R. Patel whose telephone number is (703) 308-7940. The examiner can normally be reached on Monday through Thursday from 7:30 to 6.

The appropriate fax number for the organization (Group 2650) where this application or proceeding is assigned is (703) 872-9314.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Doris To can be reached on (703) 305-4827.

Any inquiry of a general nature or relating to the status of this application should be directed to the group receptionist whose telephone number is (703) 305-4700 or the group Customer Service section whose telephone number is (703) 306-0377.

GAUTAM R. PATEL
PRIMARY EXAMINER

Gautam R. Patel
Primary Examiner
Group Art Unit 2655

January 5, 2005